Technical Information

M-Dextrose Tryptone Broth

Product Code: DM 2104

Application: - M-Dextrose Tryptone Broth is recommended for detection and cultivation of thermophilic flat sour microorganisms from food preparations using membrane filter technique.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	20.000
Dextrose	10.000
Bromo cresol purple	0.040
Final pH (at 25°C)	6.7±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

M-Dextrose Tryptone Broth is a modification of Dextrose Tryptone Agar. This is a non-selective medium, useful for the cultivation of a variety of microorganisms. Olson et al (1). used M-Dextrose Tryptone Broth for determining total counts on samples of milk passed through welded milk lines. Thermophillic bacteria are usually species of *Bacillus* which enter milk from various sources on the farm or from poorly cleaned equipments in the processing plant. These bacteria rapidly increase in numbers when present in milk or dairy products that are held at high temperature for long periods. Sour spoilage of food products without formation of gas is called as flat-sour spoilage.

Casein enzymic hydrolysate provides essential growth nutrients. Dextrose is the fermentable carbohydrate and bromocresol purple acts as the pH indicator. Colour change of the medium from purple to yellow is due to acid production from dextrose.

Test samples are filtered through membranes and then placed on membranes saturated with M-Dextrose Tryptone Broth and incubated at 55°C in sealed Petri plates for the detection and enumeration of thermophilic flat-sour sporulating organisms (2).

Methodology

Suspend 30.04 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat if necessary to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Appearance
Cream to light green homogeneous free flowing powder

Colour and Clarity
Purple coloured clear solution without any precipitate

Reaction
Reaction of 3.0% w/v aqueous solution at 25°C. pH : 6.7±0.2

pH Range
6.50-6.90

Cultural Response
DM 2104: Cultural characteristics observed after an incubation at 55°C for 36-48 hours in humid atmosphere.

Organism	Inoculum (CFU)	Growth
Bacillus stearothermophilus ATCC 7953	50-100	luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Olson, Brown and Mickle, 1960, J. Milk and Food Tech., 23:86.
2. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

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